

8-3-12

MULTIPLYING DECIMALS

When you multiply, you are finding a # OF another #

A decimal is part of a whole

** When you multiply 2 factors greater than 1, your product is greater than both factors.

** When one factor is greater than 1, but the other factor is less than 1, the product is between the factors
(b/c you are finding part of a whole)

Ex: $0.5 \times 2 = 1$

$\frac{1}{2}$ OF 2 is 1

1 pizza

1 pizza

$$\frac{1}{2} \text{ of } 2 = 0.5 \times 2 = 1$$

** When both factors are less than 1, the product is less than both factors

Ex: $0.5 \times 0.5 = 0.25$

$\frac{1}{2}$ of $\frac{1}{2}$



$\frac{1}{2}$ pizza

$$\frac{1}{2} \text{ of } \frac{1}{2} = 0.5 \times 0.5 = 0.25$$

STEPS:

- ① Drop unnecessary zeroes
- ② The longest # goes on top
- ③ The 2nd # goes under it by digits, not by place value
- ④ Multiply like regular #s
- ⑤ Place dec. pt. in product by counting the total # of digits behind the dec. pt. in both factors. That is the total # of digits that need to be behind the dec. pt. in product. You may need to write zeroes in the front to get the total # of digits needed.

Ex: $\cancel{0}.5 \times \cancel{0}.26$

$$\begin{array}{r} \overset{3}{\cancel{0}}.26 \\ \times \phantom{\cancel{0}}.5 \\ \hline .13\cancel{0} = 0.13 \end{array}$$

Ex: $\cancel{0}.458 \times \overset{6}{\cancel{0}}\overset{4}{\cancel{0}}\overset{3}{\cancel{0}}.6$

$$\begin{array}{r} \phantom{\cancel{0}} \overset{3}{\cancel{0}} \overset{4}{\cancel{0}} \overset{6}{\cancel{0}}.458 \\ \times \phantom{\cancel{0}} \phantom{\cancel{0}} \phantom{\cancel{0}}.6 \\ \hline 2.748 \end{array}$$